

REMARKS

Summary of Amendments

1. Claims 1 through 10 were originally presented in this application. Claims 11-17 were added in an amendment dated November 23, 2005. Claims 18 and 19 were added in an amendment dated July 24, 2006. By the present amendment, claims 20 and 21 have been added and claims 11-15 have been canceled. Claim 1 has been amended to more particularly point out and distinctly claim the subject matter of the instant invention. Claims 1-10 and 16-21 thus remain pending.

Claim Rejections – 35 U.S.C. § 102

2. Independent claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by three distinct references; (i) *Wang et al.* (U.S. Pat. No. 6,490,146), (ii) *Ohashi et al.* (U.S. Pat. App. Pub. No. 2003/0064225), and (iii) *Inazumachi et al.* (U.S. Pat. No. 6,693,789). The Examiner has upheld these rejections from the September 20, 2006 Office Action.
3. Applicants respectfully traverse these rejections to the extent that they are pertinent to independent claim 1 as amended. Claim 1 has been amended to recite:

the ceramic metal composite further including a retaining face configured to hold either a semiconductor wafer or LCD glass as a processed object; and
an electrically resistive heating circuit provided either in the ceramic susceptor, or on a face of the ceramic susceptor opposite the ceramic-metal composite.

This amendment is clearly supported by original Figs. 1a and 1b, such that no new matter has been added.

4. Applicants respectfully submit that independent claim 1, as amended, now distinguishes patentably over the prior art of record, for at least two reasons. First, none of the prior art references of record disclose a composite material having a processed-object retaining face configured to hold either a semiconductor wafer or LCD glass. And second, none of the prior art references of record disclose a heating circuit provided either in the susceptor (which is below the composite) or on a susceptor face opposite from the composite.

5. Regarding *Wang et al.*, the ceramic-metal composite 175 is located below a dielectric layer 115 (see Figs. 1, 2, and 6), and thus cannot include a processed-object retaining face. Moreover, a heating element is disposed internal to the ceramic-metal composite 175 (as opposed to being in a susceptor that is located below the composite). Therefore, *Wang et al.* cannot anticipate independent claim 1 as amended. Applicants further note that the structure of the present invention is important to the functionality thereof. In particular, providing the ceramic-metal composite atop the ceramic susceptor (and therefore above the heating element) enables the highly conductive ceramic-metal composite to uniformly conduct heat to the semiconductor wafer or LCD glass placed on the wafer holder. Therefore, the present invention advantageously provides for outstanding thermal uniformity across the entire surface of even the largest surface area processed objects. On the contrary, a structure such as that disclosed by *Wang et al.*, in which the heating element is provided in the composite, does not distribute heat uniformly to the semiconductor wafer or LCD glass. Therefore, the thermal uniformity tends to be inadequate on large-area devices. Accordingly, Applicants respectfully submit that the rejections in view of *Wang et al.* have been overcome.
6. Regarding *Ohashi et al.*, there is no disclosure of a heating element in the reference. *Ohashi et al.*, moreover, additionally requires a diamond film 128 provided atop the ceramic-metal composite 125. Thus the ceramic-metal composite cannot include a processed-object retaining face as recited in amended claim 1 of the present application. Applicants therefore respectfully submit that *Ohashi et al.* cannot anticipate amended claim 1 and that the rejection over *Ohashi et al.* is therefore overcome.
7. *Inazumachi et al.* also make no disclosure of a heating element. Moreover, *Inazumachi et al.* disclose a structure in which the composite 2 is sandwiched between two ceramic plates 1 and 3. Thus the ceramic-metal composite cannot include a processed-object retaining face as recited in amended claim 1 of the instant case. Applicants therefore respectfully submit that *Inazumachi et al.* cannot anticipate amended claim 1 and that the rejection over *Inazumachi et al.* is therefore overcome.
8. For the reasons set forth above in Sections 4-7, Applicants respectfully submit that independent claim 1 is patentable over the prior art of record. Independent claim 1 being allowable, it follows that dependent claims 2-10 and 16-19 must also be allowable, since these dependent claims carry with them all the elements of independent claims from which they depend.
9. In the present amendment, Applicants submit new claims 20 and 21 for consideration by the Office. New claims 20 and 21 are supported by original Figs. 2-5, such that no new matter has been added. New claims 20 and 21 are

App. No. 10/709,889
Amendment dated August 13, 2007
Reply to Office action of May 11, 2007

believed to be patentable for the same reasons as independent claim 1. They are believed to be further patentable due to the recitation of a support structure anchored to the processing chamber floor. Applicants respectfully request the allowance of new claims 20 and 21.

Accordingly, Applicants courteously urge that this application is in condition for allowance. Reconsideration and withdrawal of the rejections is requested. Favorable action by the Examiner at an early date is solicited.

Respectfully submitted,

August 13, 2007

/James Judge/

James W. Judge
Registration No. 42,701

JUDGE & MURAKAMI IP ASSOCIATES
Dojima Building, 7th Floor
6-8 Nishitemma 2-chome, Kita-ku
Osaka-shi 530-0047
JAPAN

Telephone: **305-938-7119**
Voicemail/Fax: **703-997-4565**